



Overview of Governor Cooper's Executive Order No. 80: NC's Commitment to Address Climate Change and Transition to a Clean Energy Economy

*NC Erosion & Sedimentation Control Design Workshop, December 3, 2019
W.E. Toby Vinson, P.E., CPESC, CPM*



Executive Order No. 80

North Carolina's Commitment to Address Climate Change and Transition to a Clean Energy Economy



- Recognizes that climate change is affecting the health and welfare of our residents, economy, environment and our natural and built infrastructure.
- Recognizes that we must take an active role in combatting climate change and make our state more resilient to its impacts.
- Calls for clean energy technology innovations, workforce development, and a modern, smart electric grid to grow the state's economy while making North Carolina a national leader in clean energy solutions.
- Recognizes that we can protect our communities, grow our economy, and ensure a healthy environment at the same time.

N.C. Climate Change Interagency Council

Composition: The secretary or designee of each cabinet agency and a representative of the Governor's Office

Council Chair: Secretary Regan, N.C. Department of Environmental Quality

Council Duties:

- Recommend new and updated goals and actions to meaningfully address climate change
- Develop and implement programs and activities that support climate mitigation and adaptation
- Consider stakeholder input when developing recommendations, programs, and activities
- Schedule, monitor, and provide input on the preparation and development of the plans and assessments required by EO 80
- Review and submit to the Governor EO 80 plans and assessments

Status Update on Implementation: To Governor by Oct. 15, 2019.

State Goals

The State of North Carolina will strive to accomplish the following by 2025:

- a. Reduce statewide greenhouse gas emissions to 40% below 2005 levels
- b. Increase the number of registered, zero-emission vehicles (ZEVs) to at least 80,000
- c. Reduce energy consumption per square foot in state-owned buildings by at least 40% from fiscal year 2002-2003 levels

*EO80 Section 9- Climate Science, Impacts, Risks, Adaptation,
and Resiliency*

Directives

Department of Environmental Quality & Cabinet Agencies

- **N.C. Climate Risk Assessment and Resiliency Plan** - provide a scientific assessment of current and projected climate impacts on North Carolina and prioritize effective resiliency strategies. **Due Mar. 1, 2020.**

All Cabinet Agencies - Assess and Address Climate Change

- Evaluate the impacts of climate change on agency programs and operations
- Integrate climate change mitigation and adaptation practices into agency programs and operations
- Support communities and sectors vulnerable to climate change impacts



Goals

Goal 1: Develop an updated Climate Science Assessment for NC and define exposure to climate-related hazards

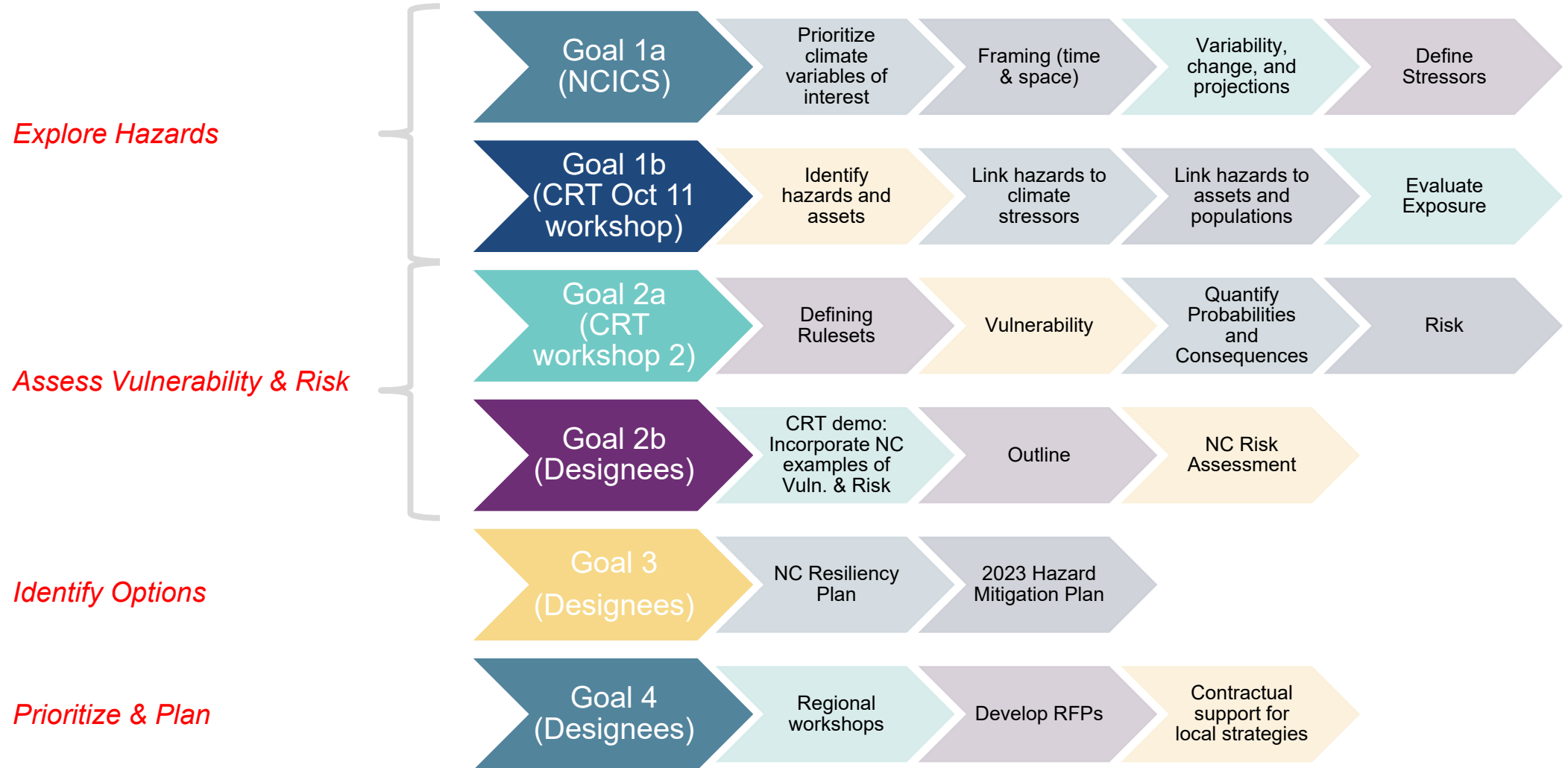
Goal 2: Assess vulnerability to climate change

Goal 3: Develop a NC Climate Risk Assessment and Resiliency Plan

Goal 4: Assist interested local communities in developing resiliency strategies



Approach



Implementation Strategy



Goal 1a

N.C. Climate Science Report

North Carolina Institute of Climate Science (NCICS)



Goal 1a

NC Climate Science Report and Climate Science Panel

- The NC Climate Science Report is being developed by the NC Institute for Climate Science (NCICS)
- With help from the Climate Science Advisory Panel consisting of the top climate scientists from all major Universities in NC
- NC CSR will use the National Climate Assessment Guiding Principles and extensive peer-reviewed findings.



North Carolina Institute
for Climate Studies

NAME	UNIVERSITY
Ana Barros	Duke University
Reide Corbett	Eastern Carolina University - Coastal Studies Institute
Kathie Dello	NC State University / NC State Climate Office
David Easterling	NOAA National Centers for Environmental Information
Charles Konrad	University of North Carolina-Chapel Hill
Kenneth Kunkel	North Carolina Institute for Climate Studies / NCSU
Gary Lackmann	North Carolina State University
Wenhong Li	Duke University
Rick Luettich	University of North Carolina-Chapel Hill Institute of Marine Science
Douglas Miller	University of North Carolina-Asheville
Baker Perry	Appalachian State University
Walter Robinson	NC State University (NC State Climate Office)
Adam Terando	Southeast Climate Adaptation Science Center / NCSU / USGS
Solomon Bililign	North Carolina A&T
Yuh-Lang Lin	North Carolina A&T

Climate Variables

Temperature (and humidity)

Precipitation

Sea level rise

Hurricanes/tropical storms

Severe winter storms

Heat waves

Coastal erosion

Flooding (inland, coastal)

Extreme weather events

Tornadoes

Droughts

Combined sets of variables that affect the risk of landslides, wildfires, and invasive species

NC Climate Science Report: Outline

1. Global State of the Science
2. Historical Changes in Southeast and NC
 - Regional
 - Southeast and North Carolina
 - Coastal, Piedmont, Mountains
 - Temperature and Precipitation
3. Projections for NC

**Executive Order 80 - Section 9
North Carolina Climate Science Report**

North Carolina Institute for Climate Studies /
North Carolina State University
December 2019

NC CSR: Timeline



Goal 1b

Goal 2

Goal
3

N.C. Risk Assessment and Resiliency Plan Development Process



N.C. Risk Assessment and Resiliency Plan Development

- DEQ is partnering with NOAA, NEMAC, and the U.S. Climate Resilience Toolkit team to develop a comprehensive Risk Assessment and Resiliency Plan for the state of North Carolina
- This plan will be developed using feedback and engagement from:
 - state cabinet agencies,
 - Local government officials,
 - City planners,
 - Environmental Organizations, etc.



North Carolina Institute
for Climate Studies



U.S. Climate
Resilience Toolkit
toolkit.climate.gov



Steps to Resilience Framework

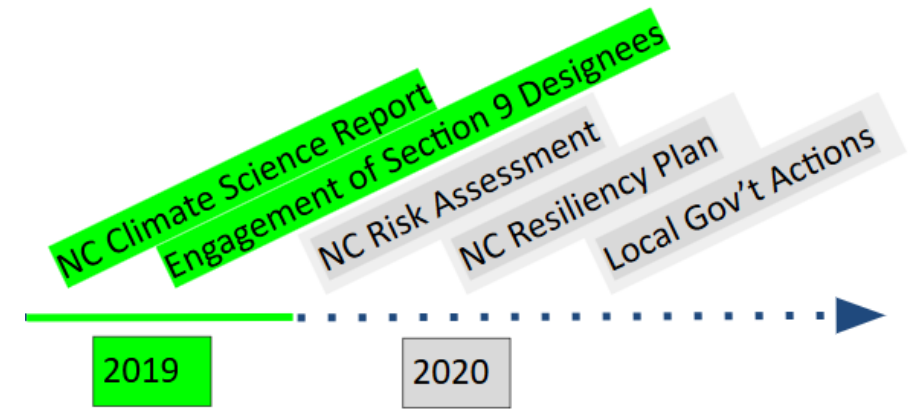


The Steps to Resilience



Phase I and Timeline

- During Phase I of this process:
 - Employ the Steps to Resilience with Section 9 Departments.
 - Perform a Gap Analysis on what has already been done in the State
 - Establish framework that will build adaptive capability at a State and Regional level
- Phases II and III of the development process will take place *after* March 2020



Goals for March 2020



Goal 4

N.C. Regional Resiliency Workshops



Goal 4

Regional Resiliency Workshops

- To inform the NC Risk Assessment and Resiliency Plan DEQ, with the help of sister cabinet agencies and partnering organizations, will be hosting Regional Resiliency Workshops in the **Mountain** and **Piedmont** regions of the state.
- Objectives of these workshop are/were:
 - Learn about how the changing climate has affected local communities in North Carolina,
 - Share regional climate adaptation and resiliency challenges,
 - Generate strategies that could be implemented at the local level,
 - Generate recommendations that could be implemented at the state level,
 - Prioritize regional vulnerabilities to be addressed in the North Carolina Climate Risk and Resiliency Plan.



Workshop Participant Groups

The following participant groups were in attendance:

- **Local government officials:** town council, county commissioners, mayors
- **Local Planners:** town/county managers, planners/community development, public works directors, emergency managers, floodplain administrators, public health officials, parks and recreation, etc.
- **Community Organizations:** Environmental advocacy groups, environmental justice organizations, tribal communities, faith-based organizations, etc.
- **Business, Commerce, and Agriculture:** Local business owners, department of agriculture, city commerce, forestry
- **Supporting Organizations:** Environmental groups, academia, consultants, etc.

Workshop Participant Groups

- Workshop Participants were divided into the following focus groups based on area of expertise
 - **Public Health**
 - **Agriculture/Business/Commerce**
 - **People and Community**
 - **Environment and Natural Resources**
 - **Local Planning**
 - **Transportation**
- Focus groups shared information on climate hazards and impacts seen in their region and helped to generate recommendations that can be implemented at a state level.

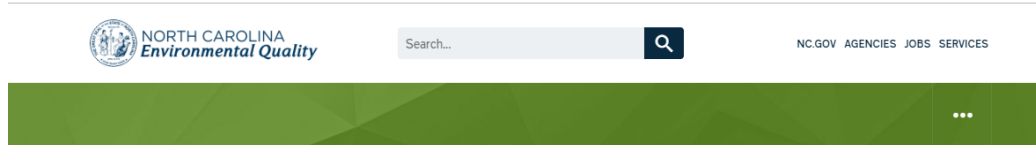
Mountain and Piedmont Workshop Locations

Workshops were held from 9:00 am to 4:00pm on the following dates:

Workshop Date	Location	Address
October 15 th , 2019	Southwestern Community College	447 College Drive, Sylva NC 28779
October 16 th , 2019	Western Piedmont COG	1880 2nd Ave NW, Hickory, NC 28601
November 4 th , 2019	Piedmont Regional COG	1398 Carrollton Crossing Dr, Kernersville, NC 27284
November 7 th , 2019	Lumber River COG	30 CJ Walker Road, COMtech Park, Pembroke, NC 28372
November 12 th , 2019	Upper Coastal Plain COG	121 West Nash Street Wilson, NC 27893

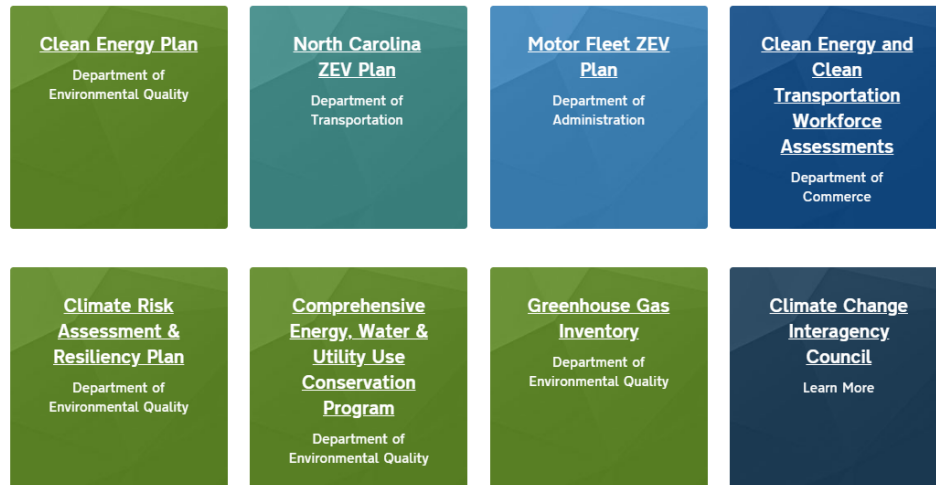
EO80 Website

deq.nc.gov/climate-council



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Climate Change & Clean Energy: Plans & Progress



Participating Agencies



Questions?

North Carolina Erosion and Sediment Control Design Workshop

December 3, 2019



Please Remember to Complete the End of Workshop Evaluation

(separate from the PDH sponsor evaluation)

bit.ly/Raleigh2019-ESC-Eval